We Claim:

1. A method of automatically discovering port mapping between neighboring optical nodes in a switched optical network, the method employing a handshaking protocol between the nodes to discover fiber connections therebetween.

2. The method according to claim 1 wherein said handshaking protocol performs connection fault diagnostics.

3. The method according to claim 1 wherein said handshaking protocol includes the transfer of connection discovery messages.

4. The method according to claim 1 wherein said handshaking protocol is transferred between the nodes utilizing a dedicated wavelength channel.

5. The method according to claim 3 wherein said connection discovery messages include connected port pair (CPP) information.

6. The method according to claim 5 wherein said CPP information includes node name and port number.

7. The method according to claim 5 wherein said CPP information includes connection status information.

8. The method according to claim 5 wherein said CPP information includes diagnostic information.

9. The method according to claim 1 wherein a receiver unit at each node scans each specified ingress port for incoming connection discovery messages.

10. The method according to claim 9 wherein the receiving unit monitors an ingress port until a sender unit at the node finishes scanning of egress ports on the node.

11. A system for automatically discovering port mapping between neighbouring optical nodes in a switched optical network comprising a sender unit at each node for sending a connection discovery message to said other node, and a receiver unit at each node for receiving a connection discovery message for said other node, whereby connection port pair information is encoded into said messages.

12. The system according to claim 11 wherein said neighbouring optical nodes are interconnected via a bundle of optical fibers.

13. The system according to claim 12 wherein each node has a plurality of ports, with an optical fiber connecting ports on respective nodes.

14. The system according to claim 13 wherein each port has a port name and a unique port number.

15. The system according to claim 14 wherein each sender unit and each receiver unit sends and receives connection discovery messages over a message channel.

16. The system according to claim 15 wherein each node has scanning means to send messages to selected ports over said message channel.

17. The system according to claim 12 wherein said optical nodes have performance testing functionality to determine quality of the connection between said optical nodes.

18. The system according to claim 17 wherein said performance testing functionality is provided by a Bit Error Rate Test Set (BERTS).

19. The system according to claim 17 wherein said performance testing functionality is provided by a Synchronous Optical Network (SONET) pay load.